Construction Coordination & Management Planning

March 13, 2019

Construction Coordination & Management Planning

Overview

- **MassDOT and MBTA have worked collaboratively to develop s more coordinated approach for 2018 and now 2019 construction seasons**

- **Ultimate goal is to have ongoing coordinated effort to maximize mobility in the face of multiple Highway and Transit projects that reduce capacity and creates diversions.**
  - Fully coordinated effort to include:
    - Project identification, sequencing, and coordination
    - Development of mitigation, diversion, and mobility options
    - Customer/Stakeholder outreach and communication strategy

- **This deck focuses on 2019 – 2020 construction seasons**

- **Previews 2021 construction season**

Construction Coordination & Management Planning

Sequencing Methodology

- **Identification of Ongoing and Upcoming Construction**
  - As of February 28th, collected and analyzed highway, transit, and private project data for the Metro Boston area.
    - 1118 projects for 2019-2021
    - 125 projects for 2019 with impacts to vehicle/transit users
    - 119 projects for 2020 with impacts to vehicle/transit users
    - 98 projects for 2021 with impacts to vehicle/transit users
  - Reviewed projects by peak/non-peak, diversion and/or capacity impacted projects, and impacts on bus network
  - Northern Corridor (2019-2021) and Western Corridor (2019-2021)
    - Anticipated Schedule
    - Traffic Impacts
    - Concurrent Transit Projects (2019-2021)
    - Major Projects Beyond 2021

2019 Project Density Heat Map

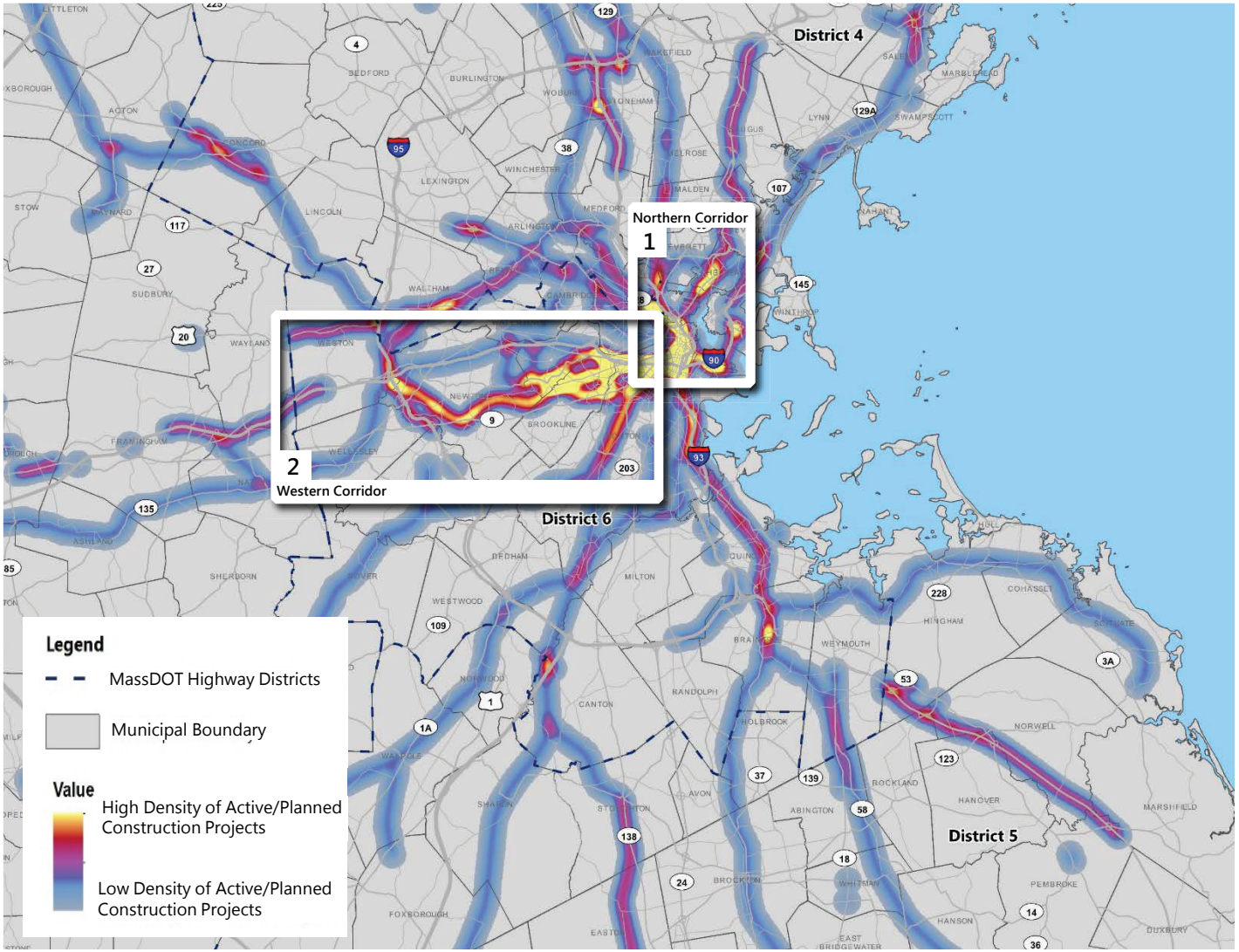
125 Projects
As of February 28, 2019

Owner/ Proponent	Number	Percent of Total
MassDOT Highway	87	70%
MBTA	32	25%
Other	6	5%

Project Type	Number	Percent of Total
Roadway	64	51%
Bridge	17	14%
Transit	32	26%
Ped/Bike	4	3%
Utilities	4	3%
Development	1	1%
Other	3	2%

Highway & transit projects with roadway lane closures, transit service disruptions/ diversions, and/or parking impacts during all time periods.

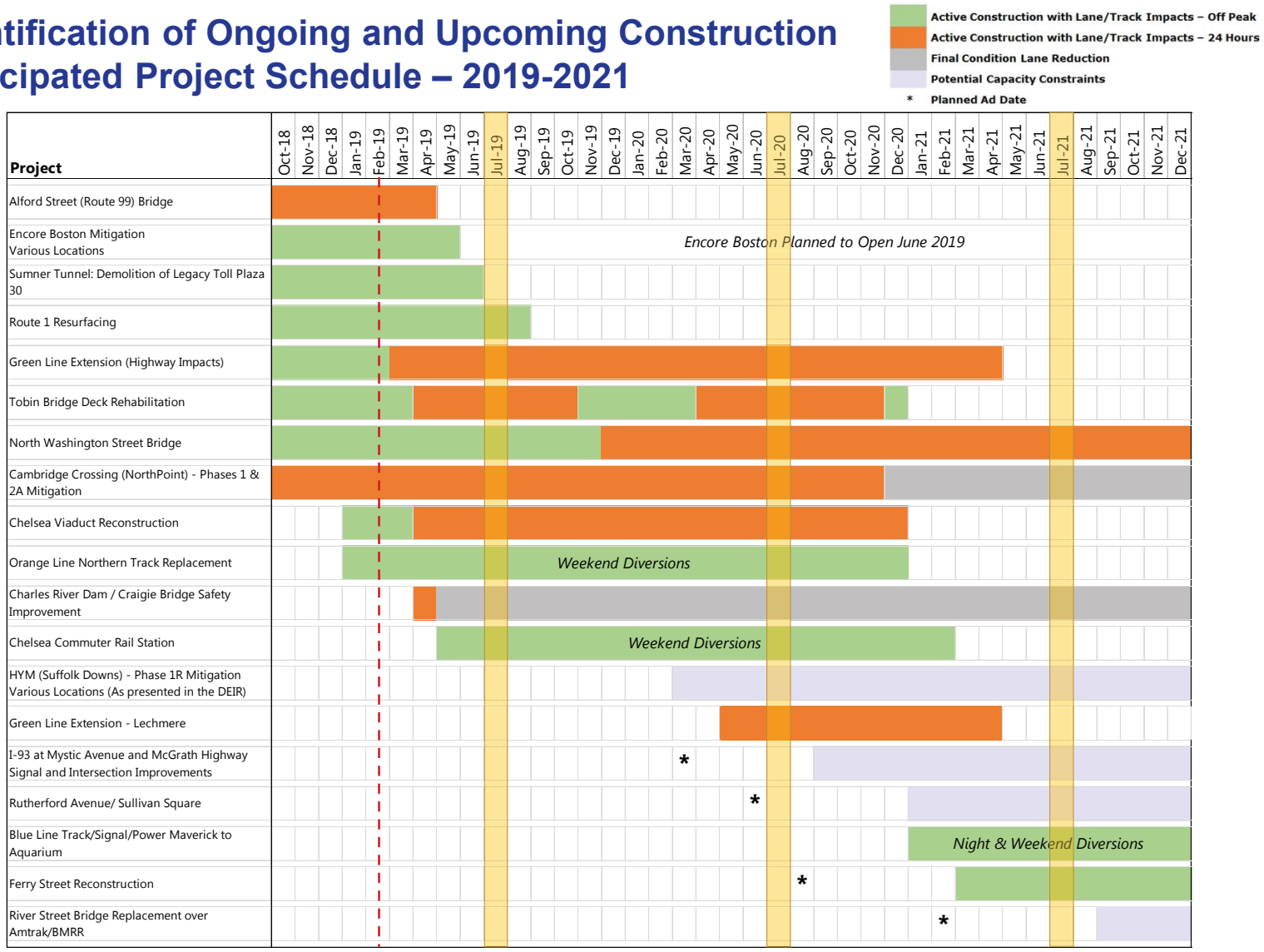
Not all projects have fixed work zones.



Updated: 3/19/2019

Northern Corridor Construction Analysis

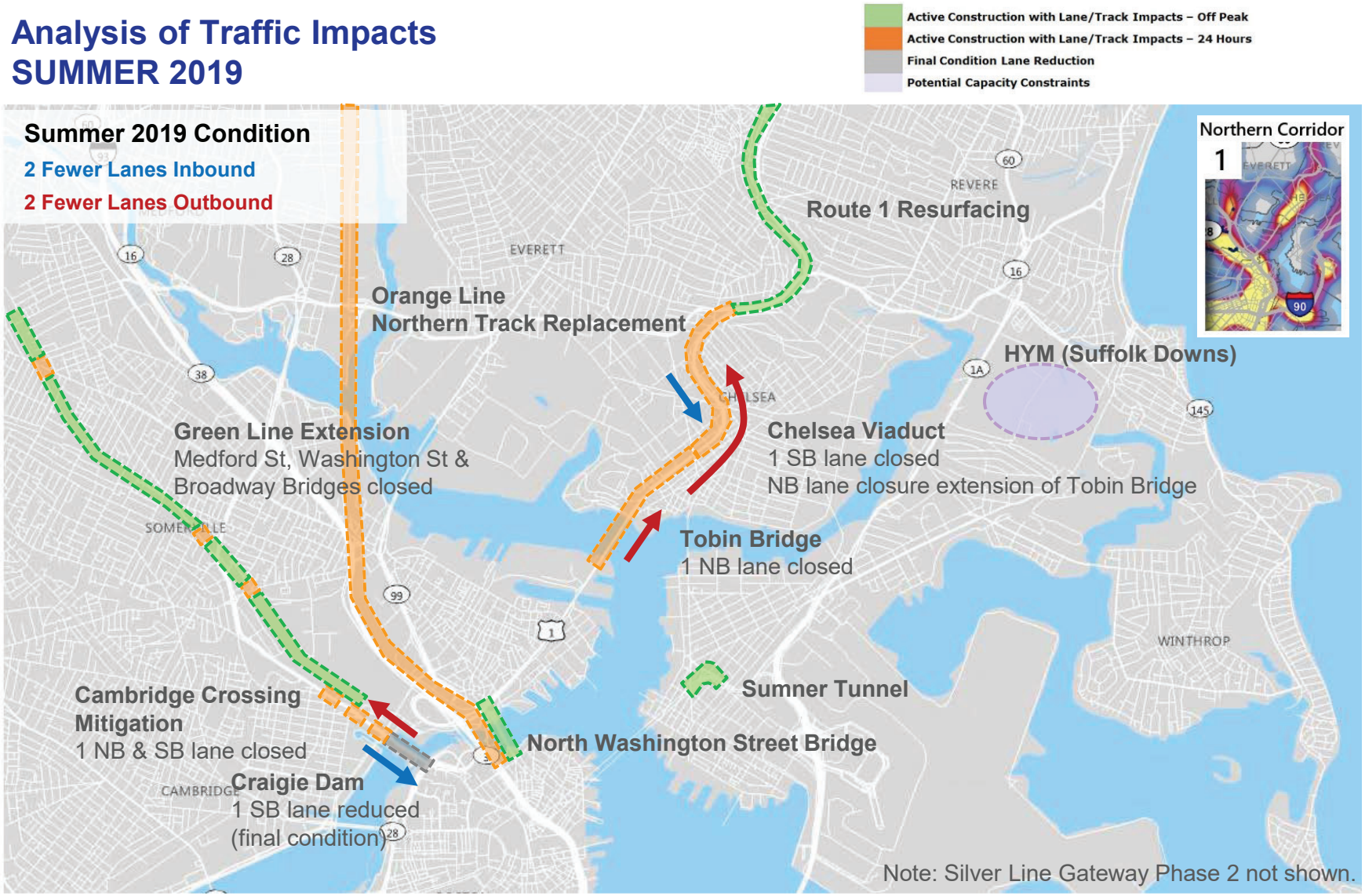
Identification of Ongoing and Upcoming Construction
Anticipated Project Schedule – 2019-2021



Updated: 3/19/2019

Northern Corridor Construction Analysis

Analysis of Traffic Impacts
SUMMER 2019



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Analysis of Traffic Impacts
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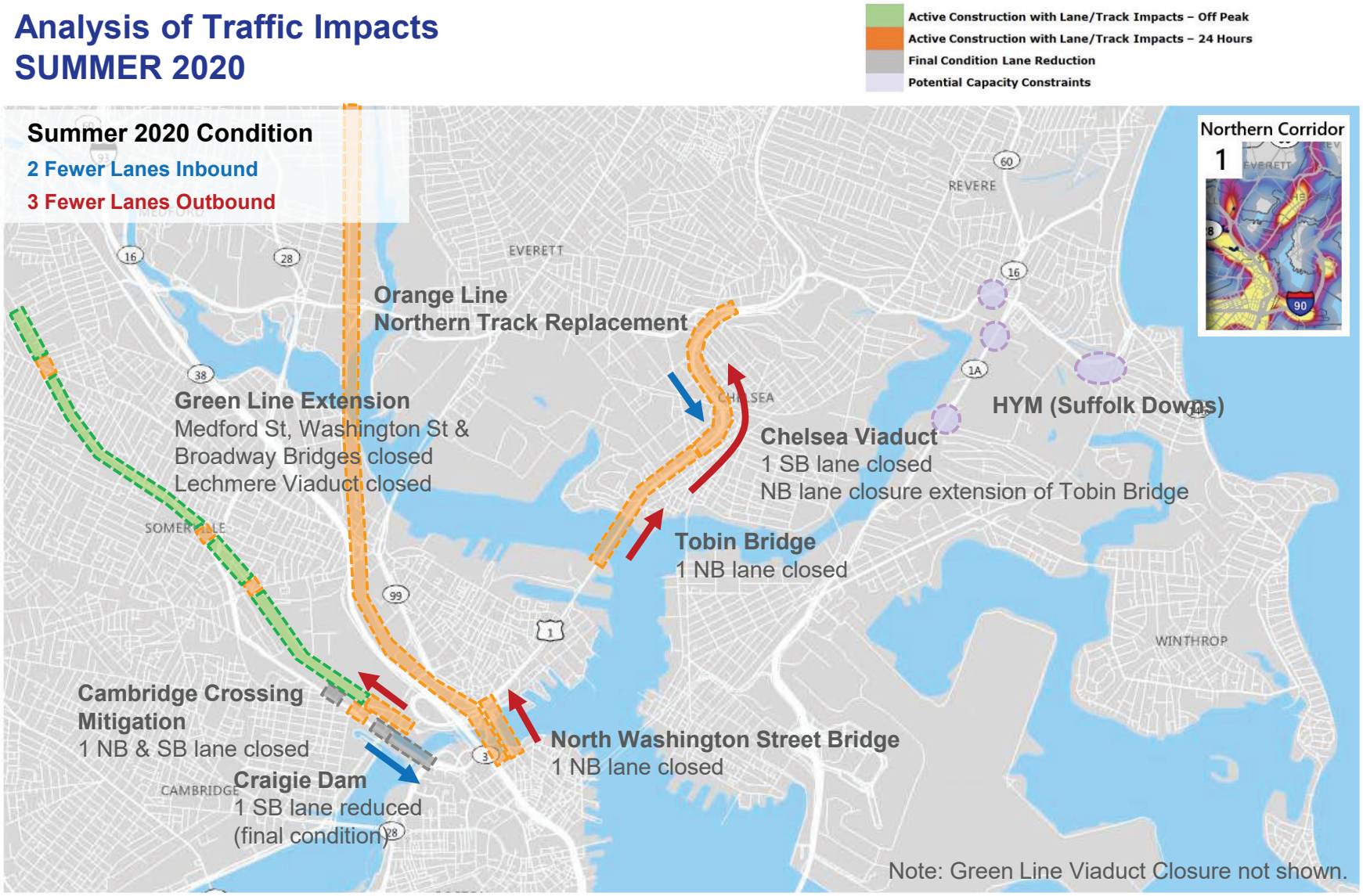


Updated: 3/19/2019

Northern Corridor Construction Analysis

MBTA / GLX – Public Outreach

Local municipalities and State Delegation members have expressed concerns with cut-through traffic issues

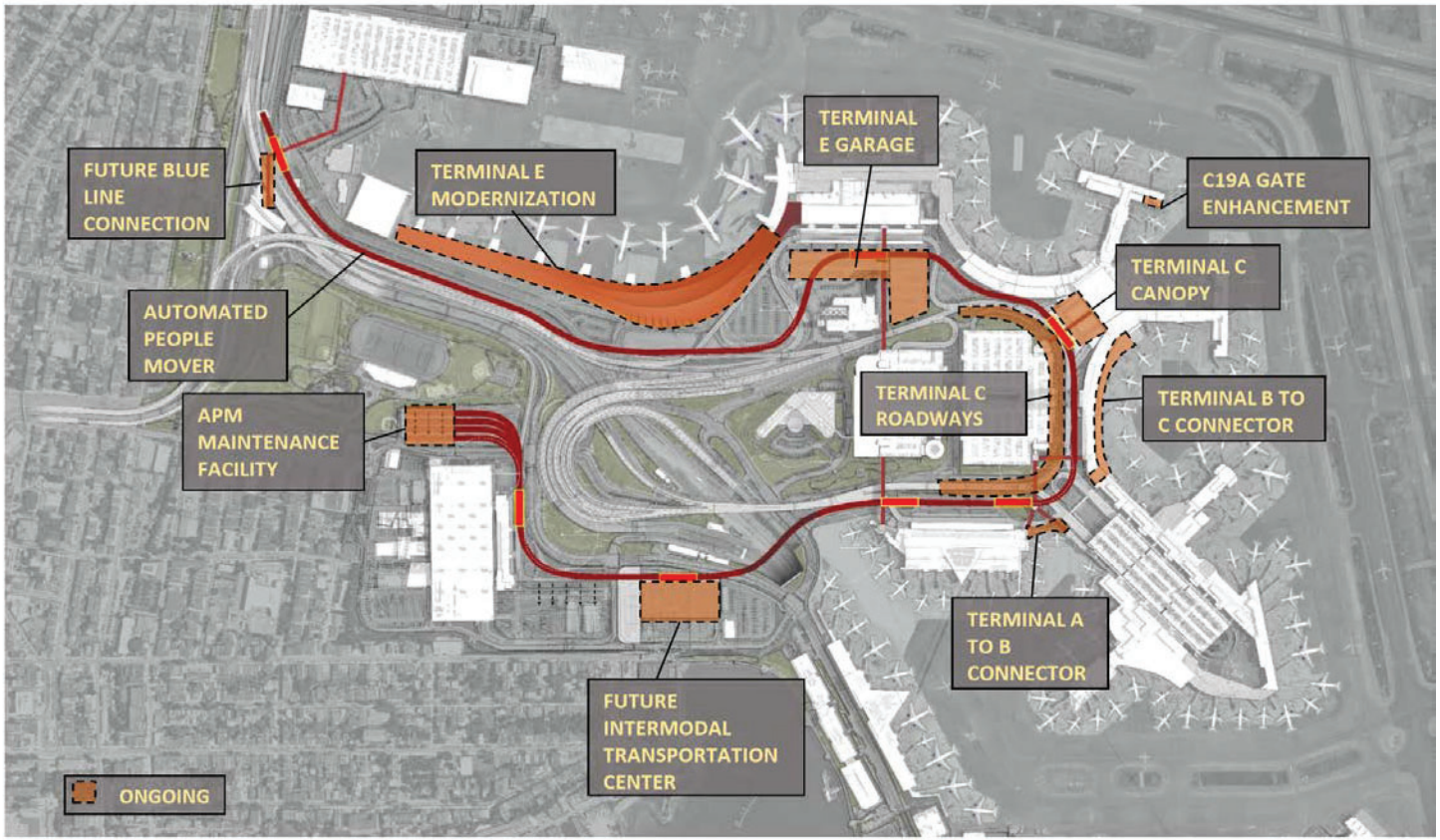
- ***Reboot Your Commute* – began outreach to inform commuters about bridge closures and detours in June 2018**
  - Public outreach within Essex, Suffolk, and Middlesex counties (96 municipalities)
  - Press releases to:
    - 84 media outlets
    - 29 hospitals and medical facilities
    - 26 colleges and universities
    - 15 Chambers of Commerce and100 large employers
  - First Responders
  - Public open houses & neighborhood group meetings
  - Door hanger cards on approximately 3000 residential homes

Northern Corridor Construction Analysis

Massport Logan Airport Roadway Improvements

Capital Programs and Environmental Affairs
Massachusetts Port Authority

LOGAN ONCAMPUS PROJECTS:



Roadway Impacts

- **Starting April 1st Through Duration of Project:**
  - **Northbound Impacts entering Tobin side of work zone from Boston**
  - **Lane reduction will result in 2 travel lanes available for commuters**

- **Mid/Late April Through Duration of Project:**
  - **Southbound Impacts start entering Chelsea side of work zone heading towards Boston**
  - **Lane reduction will result in 2 travel lanes available for commuters**

- **Additional temporary lane takings may occur during off-peak and overnight hours**

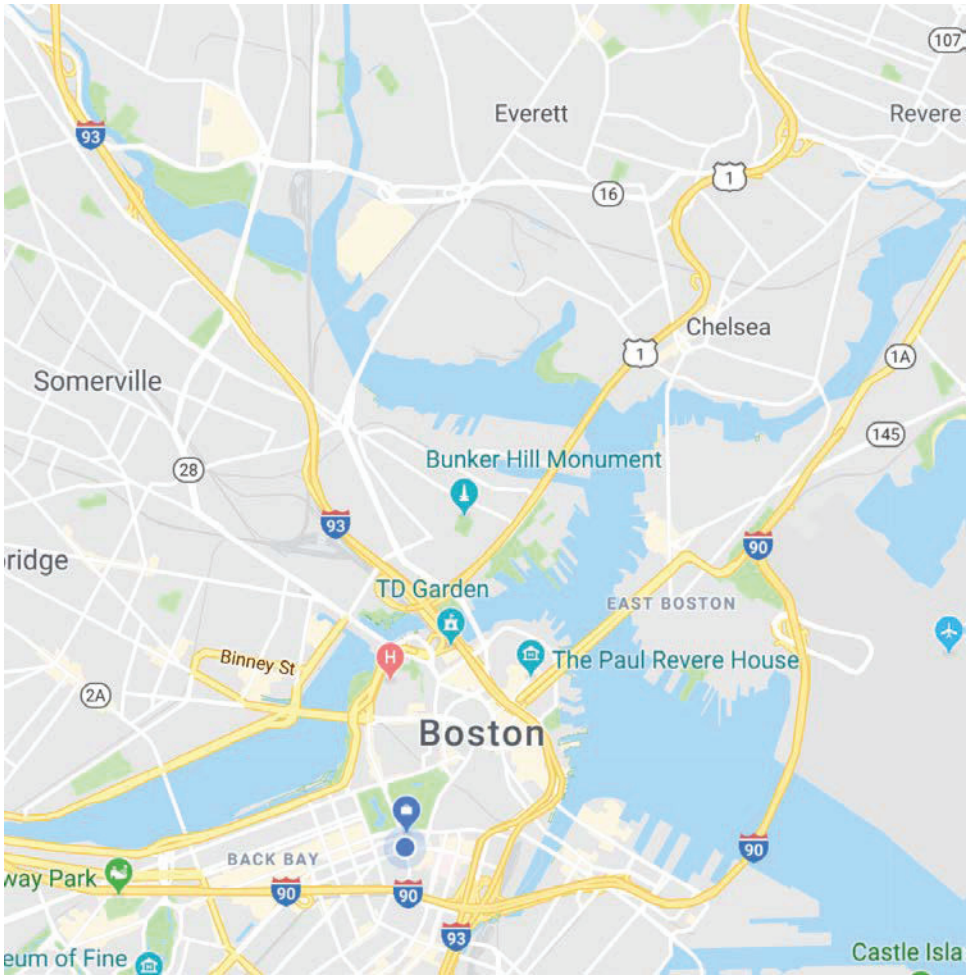
Work zone stages over 2 year duration

- **Stage 1**

- **Stage 2**

- **Stage 3**

Vehicle Diversions



- Use of I-93
- Use of Callahan Tunnel to Route 1A to Route 1
- Information Technology Solutions (ITS) to be implemented to direct drivers to most efficient route
- Transit alternatives

Commuters and employers should consider:

- Flexible work hours
- Build extra time into commutes
- Smart travel decisions

MBTA Bus Impacts

Once the work zone is fully established:

- Some bus routes will experience travel delays during peak travel times
- Without any vehicle reduction, the delay could be as high as 20 minutes

Route 111:

- Southbound: bus enters Tobin from Everett Avenue onramp beyond work zone; bridge is at full capacity: three travel lanes
- Northbound: bus exits the Tobin Bridge at the Beacon Street offramp
- Travel delays still expected

Routes 426 and 428:

- Both routes traverse entire work zone

Public Transit Options

- **Commuter Rail** – Haverhill and Newburyport/Rockport Lines
  - Customers can consider using the Haverhill or Newburyport/Rockport Lines
    - The Haverhill Line historically has parking capacity at Haverhill and Bradford stations
    - The Newburyport/Rockport Line historically has parking capacity at Newburyport, Salem, and Lynn stations
    - Customers can monitor @MBTA_Parking on Twitter for capacity updates
  - Commuters will be able to use a CharlieCard to travel between North Station and Chelsea on the Commuter Rail

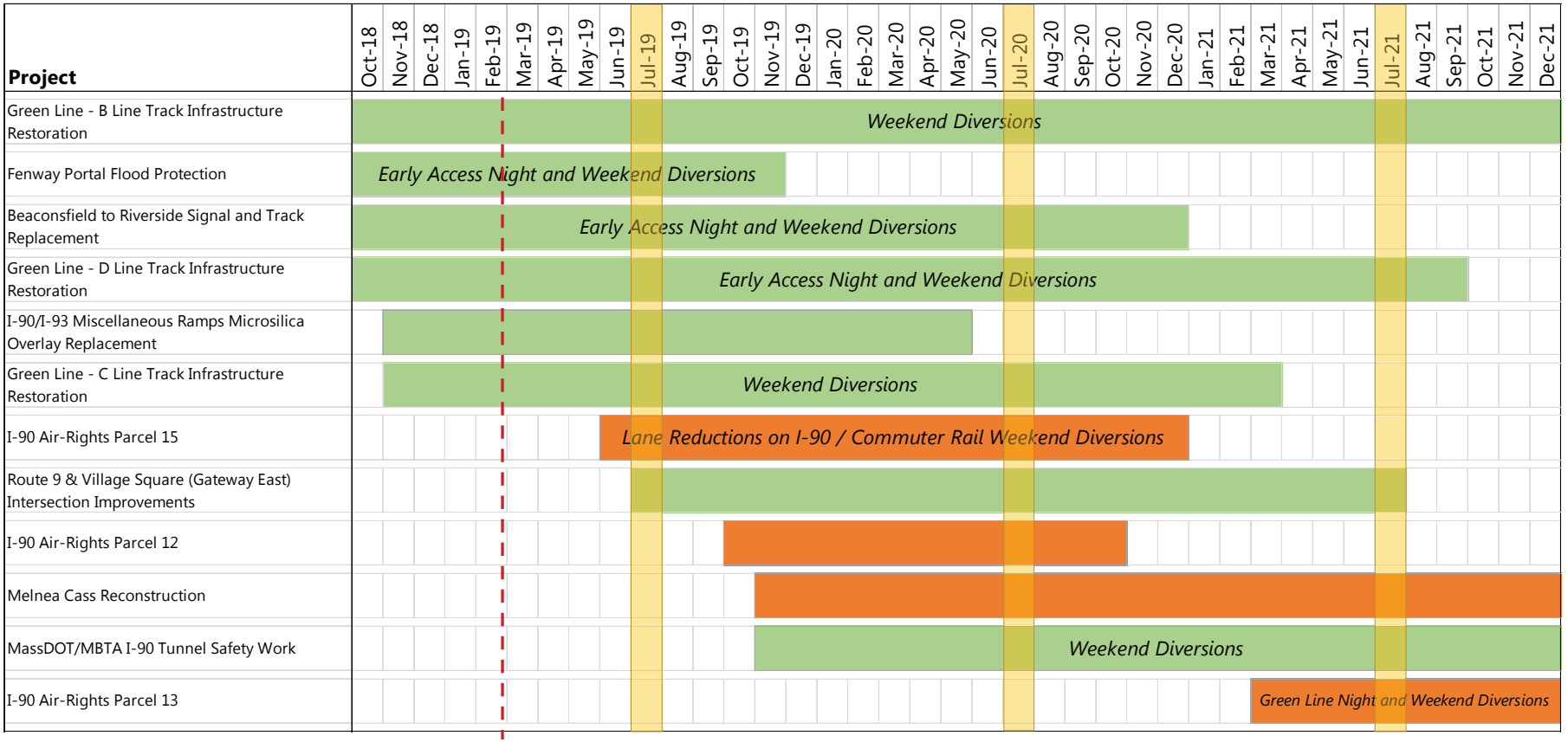
- **Blue Line**
  - The MBTA will be adding additional trains to the Blue Line

- **Silver Line 3-Chelsea:**
  - Free fares (inbound only) will be offered at the Chelsea, Bellingham Square, Box District, and Eastern Avenue SL3 stops for the duration of construction

- **Additional cost of Blue Line trains and Silver Line 3 fares will be paid for with MassDOT Highway Division project funds**

Western Corridor Construction Analysis

Identification of Ongoing and Upcoming Construction
Anticipated Project Schedule – 2019-2021

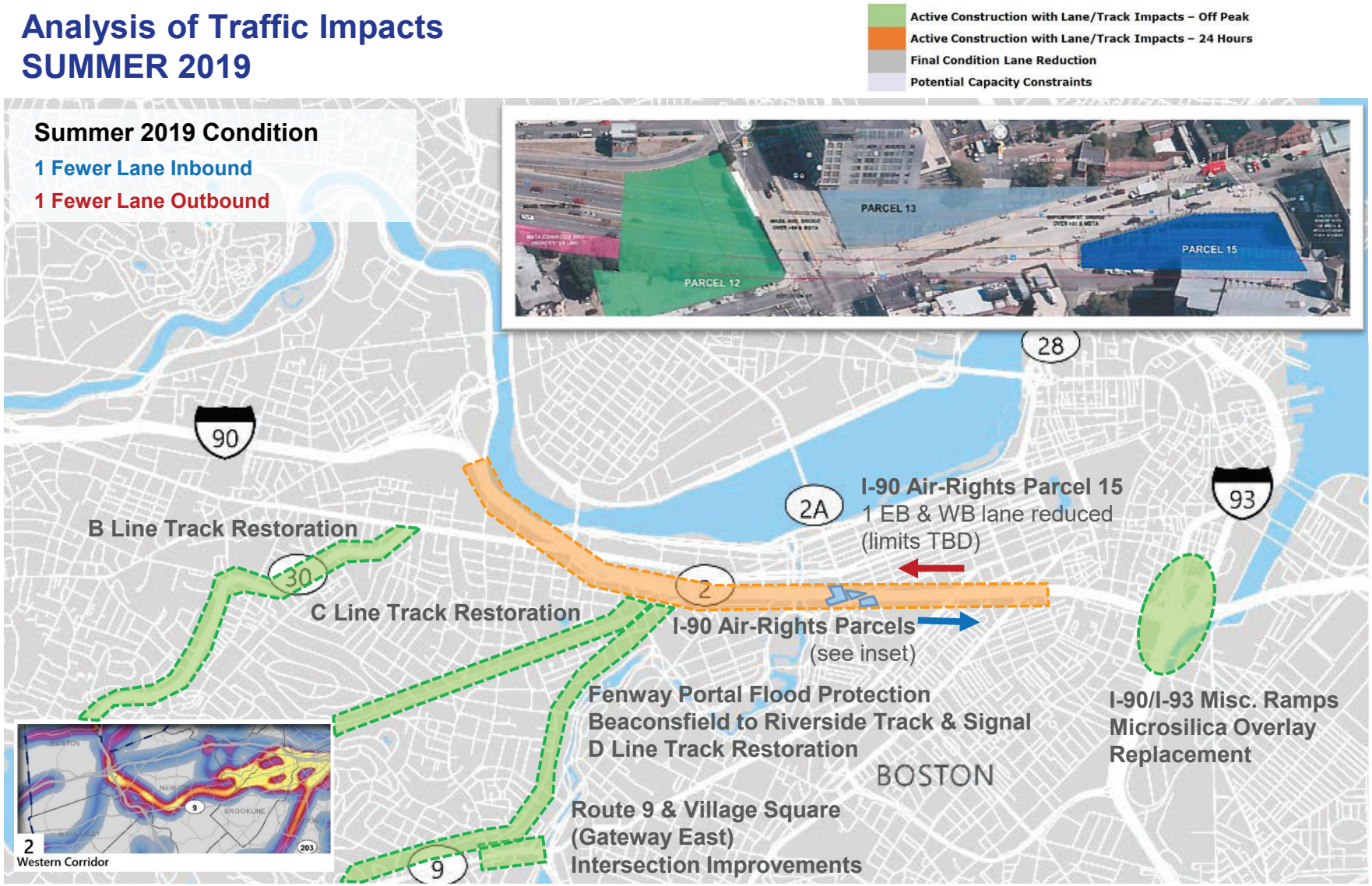


Note: Green Line Projects shown above will not have concurrent weekend diversions.

Updated: 3/19/2019

Western Corridor Construction Analysis

Analysis of Traffic Impacts
SUMMER 2019



Updated: 3/19/2019

Western Corridor Construction Analysis

Analysis of Traffic Impacts
SUMMER 2020

Updated: 3/19/2019

Western Corridor Construction Analysis

Additional Transit Projects Outside of Western Corridor Hot Spot Map

Project	City/ Town	Construction Year	Impacts
Commuter Rail Positive Train Control	Various	2019 – 2020	Weekends
Green Line Central Subway Track Infrastructure Restoration	Boston	2021 – 2022	Weekends and possible 24 hour
Green Line (Non-GLX) Grade Crossings (on-call)	Various	2019 – 2020	Weekends
Green Line Station Accessibility (26 surface stations)	Various	2020 – 2022	To Be Determined
Intervale Road Bridge	Weston	2020 – 2023	Weekends
Newton Highlands Green Line Station Accessibility	Newton	2021 – 2022	Weekends
Roberts Street Bridge	Boston	2020 – 2021	Weekends

Mitigating Travel Impacts – Highway Division

Ongoing Construction Data & Analysis Tools – Overview

- **Transportation System Management and Operations (TSMO)**
  - Set of strategies to optimize operations of the roadways to increase and improve reliability to the traveling public.
- **Travel Demand Model expansion**
  - Tied to CTPS travel demand model with a more detailed sub area roadway network and zonal structure
- **Travel time and queue impact analysis**
  - Calculating travel time & queuing impacts related to lane closures along interstates and freeways
- **Communication and Outreach**
  - Outreach tools to engage the public early and often
- **Supplementing Data Sources**
  - Coordinating with University of Maryland CATT Lab (I-95 Corridor Coalition) to access RITIS platform and additional real-time data sources

Mitigating Travel Impacts – Highway Division

Ongoing Construction Data & Analysis Tools

TSMO operations currently implemented within the Highway Division

- **Incident Response Operations**
  - Strategically located tow trucks during commuting times and within construction zones to provide quick clearance of breakdowns and crashes
  - MassDOT's Highway Assistance Program
- **GoTime**
  - Provides real time travel time messaging
- **VMB boards**
  - Provides real time message of alerts and advance warnings
- **Smart Work Zones for Major Projects**
  - Cameras at critical intersections
  - Real time traffic monitoring system
  - Traffic signals reviewed and optimized for timing within the construction zone and surrounding impacted areas

Mitigating Travel Impacts – Highway Division

Increasing Capacity

TSMO opportunities currently being developed within the Highway Division

- **Adaptive Traffic Signal Control Systems**
  - Evaluation of corridors that experience variable traffic demand throughout the day to determine where the use of dynamic signal timing, to "adapt" to the varying demand, could best service regional mobility
- **Public Transportation Capacity – Tobin/Chelsea Curves**
  - Increasing Blue Line capacity during construction duration on Tobin Chelsea
  - SL3 inbound fare reduction from Chelsea to encourage bus use
  - Continue commuter rail discounts for Chelsea residents

Mitigating Travel Impacts – Highway Division

Ongoing Construction Data & Analysis Tools

Developing More Robust Traffic Modeling Tools

- **Expansion of Charles River Basin Travel Demand Model**
  - Model limits currently being expanded to I-95/Rte. 128
  - Will serve as Metro-Boston Construction Model to establish anticipated impacts & diversions related to concurrent major infrastructure projects
  - Facilitates programming, scheduling and mitigating project impacts

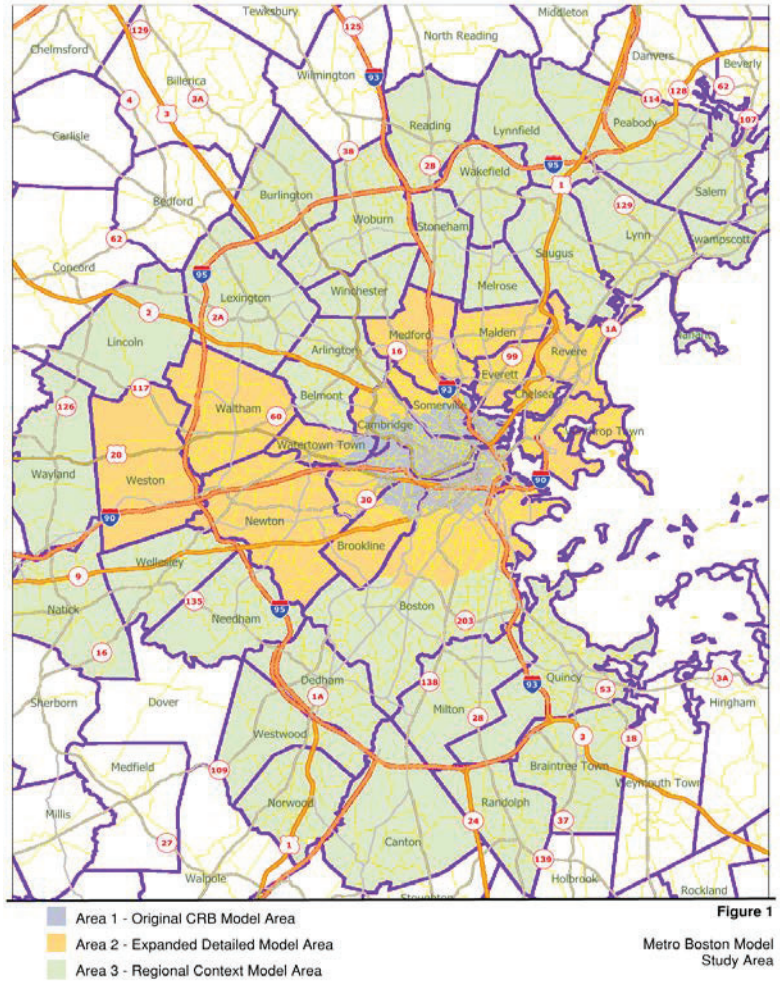


Figure 1
Metro Boston Model Study Area

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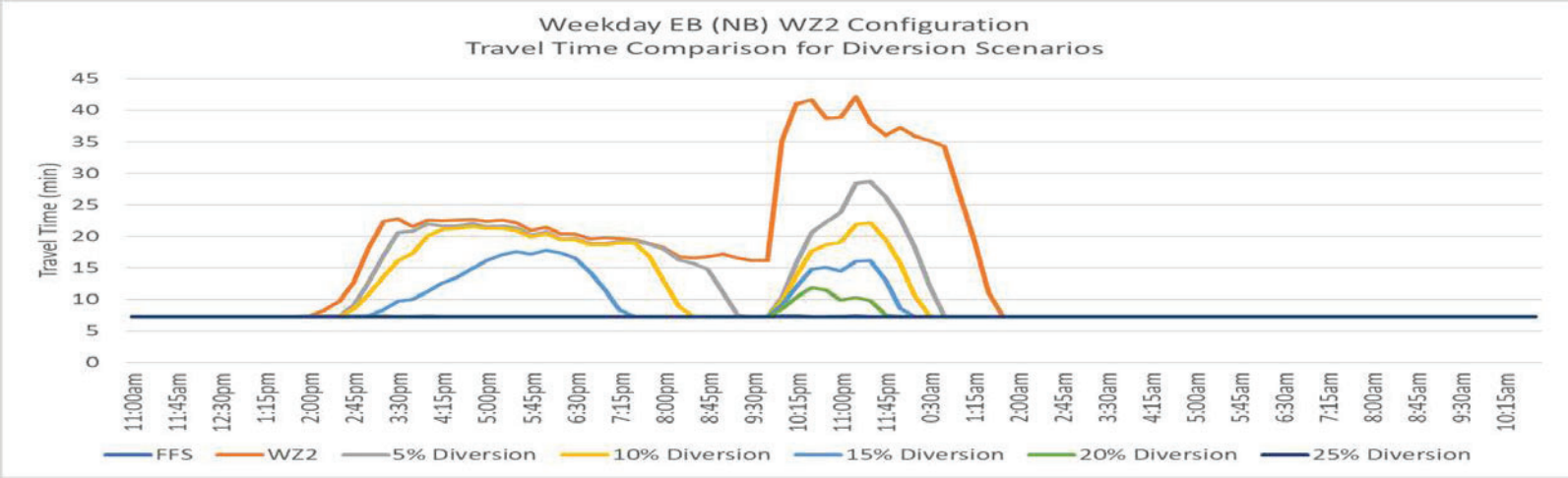
Mitigating Travel Impacts – Highway Division

Ongoing Construction Data & Analysis Tools

Using More Robust Traffic Modeling Tools

- ***FREEVAL Work Zone* Analysis Software**
  - Allows evaluation under various levels of traffic diversion
  - Tested during Commonwealth Avenue over I-90 superstructure replacement project
  - Currently being utilized to evaluate potential impacts related to Tobin Bridge NB deck rehabilitation and Chelsea Viaduct replacement



Mitigating Travel Impacts – Highway Division

Communication Strategy

Engaging the public early and often

- **Developing the same message on multi-project/program plans for each agency to communicate through their own mechanisms as follows:**
  - Coordinated Social Media by expanding and coordinating use of alerts for both highway and transit
  - Expanded use of branded notifications by using banners, signage, VMS board, media outlets
  - Notification to Waze, Google, and Apple navigation services
  - Expanded use of wayfinding signage to safely direct and channel modal options, bike, ferries, walking, transit, parking, etc.
  - Ongoing coordination between Highway and MBTA on impacted bus routes(111, 92, 93, etc.)
- **Develop and manage strategies to minimize travel impacts**